NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

WETLAND RESTORATION

(acre)

Code 657

DEFINITION

A rehabilitation of a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to the original condition to the extent practicable.

PURPOSE

To restore hydric soil conditions, hydrologic conditions, hydrophytic plant communities, and wetland functions that occurred on the disturbed wetland site prior to modification to the extent practicable.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies only to sites with hydric soil which were natural wetlands that have been previously modified hydrologically and/or vegetatively.

Upon completion of the restoration the site will meet the current NRCS soil, hydrology, and vegetation criteria of a wetland.

This practice is applicable only if natural hydrologic conditions can be approximated by modifying drainage and/or artificial flooding of a duration and frequency similar to natural conditions.

If the presence of hazardous waste materials in the sediment or fill is suspected, soil samples will be collected and analyzed for the presence of hazardous waste as defined by local, state, or federal authorities. Sites containing hazardous waste will not be restored under this standard.

This practice does not apply to: a constructed wetland (656) intended to treat point and non-point sources of water pollution; wetland enhancement (659) intended to rehabilitate a degraded wetland where specific functions and/or values are enhanced beyond original conditions; or wetland creation (658) for creating a wetland on a site location which historically was not a wetland or was formerly a wetland but will be replaced with a wetland type not naturally occurring on the site.

CRITERIA

General:

The landowner shall obtain necessary local, state, and federal permits that apply before restoration. The landowner shall obtain necessary local, state, and federal permits that apply before

restoration. The Clean Water Act, Section 404, regulates the discharge of dredged or fill material into "waters of the United States". The permit application may be downloaded from http://www.spa.usace.army.mil/reg/ENG4345.PDF.

Water rights are assured prior to restoration if required.

The soil, hydrology and vegetative characteristics existing on the site and the contributing watershed shall be documented before restoration of the site begins.

Hydric soil conditions:

Restoration sites will be located on hydric soils or where hydric soils can be restored.

If the hydric soil is covered by fill, sediment, spoil, or other depositional material, the material covering the hydric soil shall be removed only to the surface of the buried (or original) hydric soil.

Reestablish an approximation of the original soil microtopography.

CONSIDERATIONS

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

Evaluate the potential for a change in rates of plant growth and transpiration because of changes in the volume of available soil water.

Consider effects on downstream flows or aquifers that would affect other water uses or users.

Consider effects on wetlands or water-related resources wildlife habitats that would be associated with the practice.

Consider positioning sites adjacent to existing wetlands to increase wetland system complexity and diversity, decrease habitat fragmentation, and ensure colonization of the site by wetland flora and fauna.

Consider linking wetlands by corridors wherever appropriate to enhance the wetland's use and colonization by the flora and fauna.

Consider establishing vegetative buffers on surrounding uplands to reduce the movement of sediment and soluble and sediment-attached substances carried by runoff.

Consider the effects of varying water levels in response to potential climatic events such as wet or dry periods.

Consider changes in salt movement / concentrations in the soil resulting from hydrologic alterations.

The nutrient and pesticide tolerance of the plant species planned should be considered where known nutrient and pesticide contamination exists.

Consider effects on temperature of water resources to prevent undesired effects on aquatic and wildlife communities.

For discharge wetlands, consider upslope water/groundwater source availability.

Adequate consideration for effects on cultural resources eligible for the National Register of Historic Sites or listed sites will be done prior to any construction.

Consideration should be given to facilities for educational purposes such as walkways, piers, docks and observation decks.

Plans and Specifications

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation. Requirements for the operation and maintenance of the practice shall be incorporated in to site specifications.

OPERATION AND MAINTANENCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

Beavers, rabbits, deer and other herbivores may damage or destroy plantings and protective barriers may be required until plantings are established.

Any use of fertilizers, mechanical treatments, prescribed burning, pesticides and other chemicals to assure the wetland restoration function shall not compromise the intended purpose;

Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible;

Timing and level setting of water control structures required for the establishment of desired hydrologic conditions or for management of vegetation;

Inspection schedule for embankments and structures for damage assessment;

Depth of sediment accumulation to be allowed before removal is required;

Management needed to maintain vegetation, including control of unwanted vegetation;

Excessive sedimentation must be removed if filling the wetland;

Compatible uses and timing (e.g. grazing and harvesting) will only be used when necessary to enhance the intended purpose of the wetland;

Monitoring of vegetation changes, wildlife use and hydrology will be done as appropriate to insure the wetland is functioning as intended.

Management needed to maintain vegetation including control of unwanted vegetation.

Haying and livestock grazing plans will be developed so as to allow the establishment, development, and management of wetland and associated upland vegetation.